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Stakeholders' enactment of competing logics in IT governance: polarization, compromise or synthesis?

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ABSTRACT

Governing IT while incorporating stakeholders with diverse institutional backgrounds remains a challenge. Stakeholder groups are typically socialized differently and may have different perspectives on IT governance dilemmas. Yet, extant literature offers only limited insight on socialized views on IT governance. This study uses an institutional logics lens to examine how competing institutional logics get connected in IT governance practices through dominant stakeholders' enactment patterns and how these enactment patterns may affect the organization's IT performance. We find that logics were coupled to the three dominant stakeholder groups, but only loosely so. Congruence between the three logics they enacted depended on the IT governance dilemma at hand. Our findings demonstrate how within a triad of competing logics, switching rivalry among hybrid logics may develop. Here, the enactments led to two hybrid logics, none of which became dominant. Remarkably, the IT professionalism logic accommodated polarization between medical professionalism and the managerial logic, causing unstable IT governance. We propose that IT professionalism offers room for agency and is crucial in determining the resulting enactment patterns: polarizing, compromising or even synthesizing. This study may raise managers' awareness of the competing logics underlying IT governance practices and clarify the pivotal role of IT professionalism in IT governance debates.

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1. Introduction

In organizations, stakeholders with different functions and professional backgrounds have their own culture and are socialized within different worldviews through their work and education (Greenwood, Oliver, Guddaby, & Sahlin-Andersson, 2008; Guzman & Stanton, 2009). Therefore, different stakeholders can have different perspectives on Information Technology (IT) (Petrakaki & Klecun, 2015), and we expect the same for its governance. Yet, common IT governance frameworks (e.g., Weill & Ross, 2005; Xue, Liang, & Boulton, 2008) are prescriptive and unilateral in nature. Their recommendations disregard the complexity in shared meaning that differences in sociocultural perspectives may bring (Bechky, 2003). A lack of understanding of the impact of stakeholders' institutional backgrounds may negatively influence the efficacy of IT governance policies (Willson & Pollard, 2009), for example through more complex communications (Bai & Lee, 2003).

To counter the under-socialized views of IT governance, we draw on the institutional logics approach (Thornton & Ocasio, 2008). The institutional logics approach highlights 'how the cultural dimensions of institutions both enable and constrain social action' (Thornton & Ocasio, 2008, p. 121). Institutional logics are 'the organizing principles that govern the selection of technologies, define what kinds of actors are authorized to make claims, shape and constrain the behavioral possibilities of actors and specify criteria for effectiveness and efficiency' (Lounsbury, 2002, p. 253). We expect multiple institutional logics to be enacted in IT governance debates within organizational fields in which multiple professional groups operate (Wooten & Hoffman, 2008). To unravel underlying sociocultural mechanisms that influence IT governance (Mignerat & Rivard, 2009), we apply the institutional logics approach at a microlevel in a hospital context.

That is, we ask *how competing institutional logics get connected in IT governance practices through dominant stakeholders' enactment patterns* and reflect on the consequences thereof for IT performance. Since, in view of institutions' simultaneous enabling and constraining influence (Orlikowski & Barley, 2001), the resulting interplay between the enacted logics may affect IT performance. IT performance is defined as the extent to which IT contributes to organizational performance in terms of the intermediate process and the organization-wide level, comprising both efficiency

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and competitive contributions (Melville, Kraemer, & Gurbaxani, 2004). In examining this research problem, we address three sub-questions that build upon one another as follows: (1) *to what extent do the dominant stakeholder groups enact different logics?* The answer to this question shows whether the decision making on IT governance accords with a unilateral approach or whether indeed more logics are at play. Furthermore, to the extent that more logics get enacted, the answer illuminates whether stakeholders stick to the logic of their own field or profession, or not. On the one hand, theory on professions suggests that stakeholders each enact the values and beliefs that correspond with their field (Abbott, 1988). On the other hand, research has shown that people sometimes draw on beliefs, norms and values of other fields (Mcpherson & Saunder, 2013). The latter would potentially offer more room for congruence in IT governance decision making, but congruence would depend on the enactment patterns. This leads to the sub-question (2) *how do these logics become interconnected, either in complementary or in contradicting ways, in decision makers' debates on IT governance dilemmas?* Decision makers are faced with IT governance dilemmas (Weil, 2004; Weill & Ross, 2005, p. 27; Xue et al., 2008) of which it is nowadays accepted that black or white choices will not work (Debreceny, 2013). Here, we examine how the balancing in IT governance is informed by the logics the involved stakeholders enact. As not all balancing will be effective, our last sub-question is (3) *how do these interconnections between enacted logics affect hospital IT performance?*

We conducted an interpretive case study (Klein & Myers, 1999; Walsham, 1995) at a teaching hospital. Hospitals are an interesting context for this study because of the embedded influential professional stakeholders (Von Nordenflycht, 2010), who bring their own institutional logic that may impact IT governance. This hospital represented a particularly good research context due to the transition from a fragmented IT architecture to a single, integrated hospital-wide architecture, creating an occasion for stakeholders to voice their views. Within this context three closely related IT governance dilemmas surfaced that have also been recognized as tenacious issues in the literature: (1) centralized versus decentralized IT locus of control (Brown & Grant, 2005; Weill & Ross, 2005); (2) standardization versus customization of IT (Brown & Grant, 2005); and (3) IT stability versus change (Weill & Ross, 2005). Three internal stakeholder groups (hospital managers, clinicians and IT staff) dominated the IT governance debate, as acknowledged in a stakeholder identification meeting with two staff members and three IT project managers. They further mentioned insurance companies, but during the study the influence of this external stakeholder proved to be indirect, in terms of setting conditions. Since we examined how interconnections between the logics that get enacted in the internal decision making affect IT performance, the empirical analysis focused on the three above-mentioned dominant stakeholders.

Our research addresses the calls to IT researchers for paying more attention to how logics are enacted (Brown & Grant, 2005; Sambamurthy & Zmud, 2000; Schwarz & Hirschheim, 2003). An institutional perspective on IT governance seems to be especially lacking. Flynn and Du (2012) analyzed the legitimation of an IT implementation and Vassilakopoulou and Marmaras (2015) explored how, after IT implementation, practitioners coped with institutional pressures in integrating the IT in their work. Such studies consider institutional influences through microlevel enactment (Barley & Tolbert, 1997), yet they do so in individual implementation trajectories and leave the overall IT governance undiscussed. Whereas it is exactly in IT governance that decisions on dilemmatic choices need to be made (Weill & Ross, 2004), which will somehow be informed by established beliefs and values. When the dominant stakeholders in this debate have diverse backgrounds, this might (even unconsciously) lead to inconsistent decisions and affect IT performance, as was found for single implementation projects (Balka & Whitehouse, 2006; Boonstra & Van Offenbeek, 2010). In unraveling the interplay among different institutional logics influencing IT governance at the microlevel, our theoretical contribution to the predominantly unitarist and prescriptive IT governance literature is threefold. We empirically demonstrate how it may differ per IT governance dilemma whether stakeholders' views are complementary or contradictory. We show which enactment patterns may result when three logics coupled with three dominant stakeholder groups compete and how these patterns relate to IT governance decisions and performance. We reveal the pivotal role of the IT profession's logic in this interplay.

Our practical contribution is for IT managers to understand how the dominant stakeholders' institutionalized views may affect IT decision making, thus creating an opportunity to take into account internal forces hindering the success of IT governance. It may also inform practitioners on how IT dilemmas can be managed by explicating conflicting and complementary logics-in-use, thus helping bridge a possible cultural gap (Schwarz & Hirschheim, 2003).

2. Theoretical background

In this chapter, we first discuss dominant IT governance perspectives and frameworks. Then, we explain the three prevalent, interrelated IT governance dilemmas that emerged in our case study. In 'IT governance and institutional logics' section, we discuss how an institutional logics lens is suited to analyze IT governance embeddedness in social contexts and present the three institutional logics of the stakeholder groups studied.

2.1. IT governance

Governance of IT includes domains such as IT principles, architecture, infrastructure, business application needs, and prioritization and investment (Weil, 2004; Weill & Ross, 2005, p. 27; Xue et al., 2008). These domains can be governed by a variety of organizational structures, processes and relational mechanisms (Ribbers, Peterson, & Parker, 2002). IT governance practices are considered to be crucial in obtaining business value from IT (Lutchen & Collins, 2005; Weill & Ross, 2005).

A range of IT governance frameworks and standards have been developed to help organizations govern and manage their IT in order to obtain business value from IT. These frameworks include those developed by academics such as Weill and Ross (2004) as well as those developed by companies and public organizations. Well-known IT governance frameworks developed by practitioners include ITIL (IT Infrastructure Library), TOGAF (The Open Group Architecture Framework) and COBIT (Control Objectives for Information and Related Technologies). The latter consolidates more detailed IT standards and good practices (such as ITIL and TOGAF) and focuses more on 'what' than on 'how.' The frameworks provide prescriptive advice on elements of governance and control, such as planning and organization (COBIT), acquisition and implementation (COBIT), delivery and support (ITIL and COBIT), monitoring (COBIT) and architecture (TOGAF) (Dhillon, Coss, & Paton, 2010). Although one of the five IT governance processes in COBIT is ensuring stakeholder transparency, the perspective remains unilateral, e.g., 'the communication to stakeholders is effective and timely' (EDM5), or supporting organizations in meeting legal requirements such as the Sarbanes–Oxley act (SOX).

While these IT governance frameworks provide prescriptive guidance, the frameworks' implementation proves hard (Dietrich, 2005). Perhaps contributing to resistance is the fact that IT governance frameworks tend to adopt a unilateral perspective. Yet, many different groups (and thus multiple perspectives) are involved in IT governance such as program management offices, IT executive steering committees and IT governance councils (Dhillon et al., 2010). Weill and Ross (2004) present archetypical IT governance arrangements based on key decision areas. They propose that 'the best' IT governance arrangement depends on particular contingencies, such as strategic goals, organizational structures, size and industry characteristics (Brown & Grant, 2005). It can be expected that the influence of critical contingencies on the IT governance arrangements is mediated by managerial, political and cultural processes (Senior & Swailes, 2010). Furthermore, professionals providing the key services relating to the organization's mission are influential in the acceptance or rejection of both technologies and IT governance mechanisms. These professionals may include doctors and nurses in hospitals, lawyers in law firms, professors at universities and the engineers in manufacturing firms. In case multiple experts bring different viewpoints, this may fuel resistance toward IT governance frameworks and tools, thus weakening their success. Yet, how IT governance arrangements are shaped by contrasting and complementing interests, values, norms and beliefs of stakeholders is relatively underdeveloped (Schwarz & Hirschheim, 2003).

To further develop the relatively new IT governance field, it is imperative that representatives from key stakeholder groups voice their beliefs, values and norms on IT governance dilemmas. Gaining insight on the perspectives of these stakeholders and understanding where they overlap, complement or contradict the IT field's own logic will contribute to a fruitful IT governance debate. This paper aims to contribute to the IT governance literature by acknowledging institutionalized heterogeneity and by proposing how IT governance practices can be developed by understanding the institutional logics of key stakeholders.

2.2. Three prevalent IT governance dilemmas

This paper's focus is on three prevalent dilemmas described in the IT governance literature, namely (1) centralized versus decentralized IT control (e.g., while designing and changing architecture), (2) standardization versus customization (e.g., when considering business application needs) and (3) stability versus change (e.g., during initiative prioritization). (Brown & Grant, 2005; Weil, 2004; Weill & Ross, 2005; Xue et al., 2008). These three dilemmas emerged as highly relevant and pressing predicaments being debated at the hospital organization during the time of the case study. We further explain these dilemmas below.

Prescriptive IT governance literature tends to locate IT decision power centrally, such as at the board of the corporation (Magnusson, 2010). Yet, empirical research indicates that this is neither what practitioners want (Boynton & Zmud, 1987), nor what happens in practice (Pinsonneault & Kraemer, 1993, 1997). Furthermore, this approach may not work because of the contingencies involved (Brown & Grant, 2005; Jewer & Mckay, 2012; Weill & Ross, 2004). The IT control dilemma has persisted in the information systems community for decades, without a conclusion (Huang, Zmud, & Price, 2010; Mcelheran, 2012). Many organizations, including hospitals, are struggling with contrasting views on the desirability of centralized versus decentralized decision making (Köbler, Fähling, & Krcmar, 2010; Xue et al., 2008). Therefore, the issue of 'IT locus of control', i.e., solving the recurring paradox of centralized versus decentralized IT governance, is one dilemma we examined.

The second dilemma of standardization versus customization of IT involves the question of whether

standard packages or custom packages should be used and to what extent standard packages should be customized to the different clinicians' diverse needs. This dilemma typically refers to the hospital's focus on integration and cost effectiveness versus its dependence on IT for flexibility and patient's responsiveness (Lutchen & Collins, 2005). De Haes and Van Grembergen (2009) pointed towards the need for business and IT fusion and highlighted the dilemma whether the business is heterogeneous requiring differentiated and therefore customized IT, or whether the business is homogeneous allowing standardized IT that enables cost-effective integration. This second dilemma of balancing customization and standardization is closely connected to the first dilemma. Indeed, Brown and Grant (2005, p. 700) conclude that most authors agree that a decentralized control allows for more customized solutions and a centralized control for more standardized solutions.

The third dilemma pertains to stability versus change; weighing a hospital's need for cost-effectiveness and technical stability against its value of being an early adopter of new healthcare technologies (Weill & Ross, 2005). To the extent that IT governance is indeed meant to enable the organization to fulfill its goals through IT (Schwarz & Hirschheim, 2003), there is still a tension between guaranteeing stability through IT and enabling innovation by IT. Public not-for-profit organizations may prefer IT stability because of the need for political efficiency and the legal and formal constraints placed on the organization, while private for profit organizations may emphasize IT enabled change and innovation to stay competitive (Campbell, Mcdonald, & Sethibe, 2009).

2.3. IT governance and institutional logics

According to current IT governance insights (Brown & Grant, 2005; Debreceny, 2013), coping with these dilemmas will not be a matter of either-or, but a matter of how to strike the right balance. An institutional logics lens recognizes that finding a balance depends on what is seen as legitimate in the particular climate. The stakeholders may draw on different logics and exercise their power to influence decision making (Xue et al., 2008). High IT investments (Köbler et al., 2010) and increased sophistication and complexity of IT (Bradley et al., 2012) have intensified organizations' need for an active IT governance effort, requiring active management of the aforementioned three dilemmas. In professional organizations, such as hospitals, a few stakeholders dominate IT decision making and they do so based on their own beliefs and worldviews. Such beliefs and worldviews have been called institutional logics (Thornton & Ocasio, 2008), which serve to legitimize human decisions and activities. More precisely, institutional logics are 'the organizing principles that govern the selection of technologies, define what kinds of actors are authorized to make claims, shape and constrain the behavioral possibilities of actors and specify criteria for effectiveness and efficiency' (Lounsbury, 2002, p. 253).

An institutional logics lens is in line with Magnusson's (2010) observation about the emergent nature of IT governance. He argues that institutionalized norms and the actors that enact them determine the construction of IT governance. Further, he claims that there is no stable form of IT governance, since different institutions exist in parallel and evolve over time. This makes it worthwhile to examine the differences in IT actors' and other dominant business actors' enactment of institutional logics within microlevel IT governance debates. An institutional logics lens is ideally suited to analyze IT governance embeddedness in different social contexts. By applying the institutional logics lens to a 'microsetting of IT governance,' we demonstrate how this lens sheds light on IT governance decisions not being predetermined by institutional forces, but resulting from the enactment of these logics in the stakeholders' shared sense-making and negotiations within a local context (Epstein, 2013; Jensen, Kjaergaard, & Svejvig, 2009). The logics can be competing (Lounsbury, 2002), and when enacted, the logics may complement or contradict one another (Currie & Guah, 2007; Heeks, 2006). In adopting an institutional logics lens, we also respond to the call of Brown and Grant (2005) to assess the neglected impact of culture and politics on IT governance choices, yet we do so from an institutional perspective. An institutional perspective particularly focuses on the legitimation function of beliefs and norms, which is an essential condition in governance.

2.4. Institutional logics in hospitals

Information technology use in hospitals is growing and expanding from administrative support to clinical use, as exemplified by the increasing ubiquity of clinical decision support systems and electronic health records. Hospital IT promises medical error reduction, improved cross-boundary communications and more efficient management of clinical and administrative tasks (Heeks, 2006). Both research and practice (Doolin & Lawrence, 1997; Lapointe & Rivard, 2005) warn us that implementation and adoption of information technologies in healthcare settings, such as hospitals, are complex and challenging undertakings. Managing such challenges and getting good results on IT investments require having effective IT governance (Weill & Ross, 2004).

A hospital context presents an especially interesting setting for IT governance, due to the diverse stakeholders that influence IT governance, including (1) hospital managers, (2) clinicians such as doctors and nurses and (3) IT professionals (Heeks, 2006). Patients, while a primary stakeholder, seem not to be directly involved in IT governance. Whereas patient participation in decision making is crucial according to current healthcare

debates, patient participation tends to target the care and cure processes rather than their IT support (Elberse, Caron-Flinterman, & Broerse, 2011). Other stakeholders include health insurance companies and legislative bodies which expect robust and reliable IT infrastructures from hospitals. During this study, these external stakeholders proved to be indirect, in terms of setting conditions.

Two prominent institutional logics in the literature are professionalism and managerialism (O'Reilly & Reed, 2011). These logics also prevail in the healthcare literature (Scott, Ruef, Mendel, & Caronna, 2000), for example, in terms of medical professionalism versus 'business like'-management (Reay & Hinings, 2009). Contributions of the institutional logics literature have focused on how these logics fuel the technological choices and get inscribed in the technology (Currie & Guah, 2007; Hayes & Rajão, 2011; Nigam & Ocasio, 2010; Spicer, 2005). What seems to be missing, however, is the recognition of the role of IT profession-related logics in hospitals' IT governance, i.e., IT professionalism. Due to rapid technological developments and healthcare's increasing dependency on IT, we would expect the institutionalized beliefs and values of the IT profession to influence hospitals' IT governance.

Both managers and clinicians have to rely on IT professionals in making IT governance decisions. Therefore, understanding the logics that govern the IT profession and how these interact with the managerial logic and medical professionalism seems of critical importance (Heeks, 2006; Kraemer, King, Dunkle, & Lane, 1989; Mok, 2010). Each of these three institutional logics represents distinct sets of values, beliefs and rules with consequences for how IT in hospitals should be legitimately governed. Table 1 summarizes the three types of logics in hospital context based on the extant theory.

In conceptually defining the managerial logic, we draw on the 'business-like healthcare logic' described by Reay and Hinings (2009), which closely reflects what others have labeled 'managerialism' (e.g., Doolin & Lawrence, 1997; Enteman, 1993; Kitchener, 2002; Nigam & Ocasio, 2010; O'Reilly & Reed, 2011). Translated to an IT context, these sources suggest that managerial logic leads to hospital integration and standardization through information sharing. IT should provide overall cost-efficiencies, promote accountability, fulfill government requirements and strengthen patient satisfaction.

The second logic, the medical logic or medical professionalism, focuses on the central role of clinicians in health services delivery. Medical professionalism emphasizes that IT should support clinicians in their patient care. Legitimated by their evidence-based knowledge, extensive training and clinical experience, clinicians determine their own information needs, functionality requirements and other IT design specifi cations. As clinicians are accountable for their patients, who are at risk, information technology and data exchange should be tailored to the requirements of clinicians. Within this

Table 1. Three types of logics in hospital context based on literature.

	Managerial logic	Medical professionalism	IT professionalism
Sources of identity	Hospital as an integrated business	Healthcare provision as a profession for helping people	IT as an industry offering transparency and precision in a standardized way
Sources of legitimacy	Scale, scope and ranking of the hospital. Control and coordination of multidisciplinary services (Doolin & Lawrence, 1997)	Education and professional experience; professional judgment (Abbott, 1988; Currie & Guah, 2007)	Education, rational standards developed within a technical worldview (Mok, 2010) that builds on systems sciences (Agresti, 2011)
Sources of authority	Hospital hierarchy. Government regulation providing legal and financial frameworks (Reay & Hinings, 2005, 2009)	Professional bodies; professional autonomy; professional seniority; evidence-based knowledge (Currie & Guah, 2007)	Professional associations; IT goals determined by the management (Hirschheim & Klein, 1989; Orlikowski & Baroudi, 1989)
Governance mechanism	Business-like board system, often controlled by government agencies (Reay & Hinings, 2009)	Physicians at the core of health services delivery. Physicians as key decision makers (Reay & Hinings, 2009). Governance organized around physicians and their specialization. Selfregulation (Currie & Guah, 2007). 'Physicians exercise accountability for themselves and for their Colleagues' (Swick, 2000)	Objective needs specification through modeling techniques as governed by methodologies, such as such as waterfall, prototyping, iterative, incremental, spiral, extreme programming and agile. (Fairly, 2008; Mok, 2010)
Performance criteria	Focus on efficiency; 'do more with less' (Reay & Hinings, 2009). Patient satisfaction as the prime performance indicator. Organizational performance, effectiveness (Doolin & Lawrence, 1997), and standardized and cost-effective treatment	Technical quality of healthcare as the primary criterion (Kitchener, 2002)	IT quality attributes, such as availability, reliability, compatibility, speed, maintainability, safety, security, confidentiality and integrity (Fairly, 2008)
Basis of attention	Hospital administration (Currie & Guah, 2007). Cooperation between hospital departments, units and individual professionals (Reay & Hinings, 2009)	Doctor/patient relationship as a guide for all service provision stressing convenience and care for patients in curing them (Reay & Hinings, 2009)	IT use with the user as the central actor; emphasis on the beneficial role that computerized technologies play in organizational life (Kling, 1980, p. 63; Stoodley, 2009)
IT contribution	IT contributes to strategy to control, improve, renew and innovate business processes (Drnevich & Croson, 2013)	Professionals determine their own information needs. IT is an enabler for the innovation of care and cure processes (Heeks, 2006)	IT contributes to performance (Hirschheim & Klein, 1989)

logic, physicians are at the core of health services delivery and IT is organized around their expertise areas. Clinicians' primary performance criterion is the technical quality of healthcare and the basis of attention is the doctor–patient relationship (Currie & Guah, 2007). Quality of care improvement and innovative treatment are at the core of medical professionalism (Kitchener, 2002).

Lastly, based on the IT culture literature (Heeks, 2006; Kraemer et al., 1989; Mok, 2010; Weill & Ross, 2005; Xue et al., 2008), we characterize IT professionalism. Although Hirschheim and Klein (1989) demonstrate different worldviews and accompanying assumptions on IT, they acknowledge that the dominant rationality centers around IT's instrumentality. Within this rationality IT developers' role is to design systems that model an objective rationality in a way that will turn the system into a useful tool for managers and (other) users to achieve their common ends (p. 1203). IT professionalism as an occupational culture arises from both IT professionals' education and their personal and work experiences (Agresti, 2011; Guzman & Stanton, 2009). Professional IT associations and communities enforce this culture, where IT professionalism becomes visible in systems thinking, the frequent use of technical jargon and an emphasis on the value of technical knowledge (Agresti, 2011; Guzman, Stam, & Stanton, 2008). IT professionalism highlights the beneficial role of computerized technologies in organizational life with the user as central actor (Kling, 1980). According to this logic, being in control is important, and therefore, IT should be available, reliable, compatible, maintainable and secure. IT should offer transparency, precision and implement rational standards. IT professionals are concerned with measurement, testing, objective needs specification and the use of appropriate development methodologies, such as waterfall, prototyping, iterative, incremental, spiral, extreme programming and agile. Overall, IT professionalism is associated with technological advancement and determinist viewpoints (Postman, 1992). Figure 1 summarizes this discussion and guided our research.

3. Research method

In this section, we discuss the research design and context, the researcher's role, the data collection procedures and the data analysis.

3.1. Research design and context

Given lack of theory about the influence of institutional logics on IT governance, an interpretative approach was adopted to develop theoretical insights (Ozcan & Eisenhardt, 2009). Such an approach allows researchers to capture the perspectives of individuals and the values and meanings that they assign to their experiences (about IT governance in this case), which are situated within a social context (the hospital context) with different stakeholders (managers, clinicians and IT professionals) (Tesch, 1990). Our research context is a typical example of a large teaching hospital.

3.2. Researchers' role

In qualitative research, making the researcher's role transparent is key, because interview analysis involves the interpretation of the interview text by the researchers (Myers & Newman, 2007). We reflected on each other's philosophical stance toward data. As our research question was about the logics apparent in both behavior and conversation, we coded as our data the interviewees' description of (a) their behaviors and (b) their arguments and views. Indeed, our research question was about participants' enacted logics, which required us to understand the views and the approaches of the interviewees. Two of the researchers' participation in the key meetings and their long-term experience in this hospital, coupled with the informal interviews, allowed them to derive interpretations from respondent talk (Warren, 2001). At the same time, the involvement of a third researcher, who was unfamiliar with the context, enabled an intersubjective approach to the interviews, by constant comparison between the text and the context provided by the other researchers, resulting in shared sense-making.

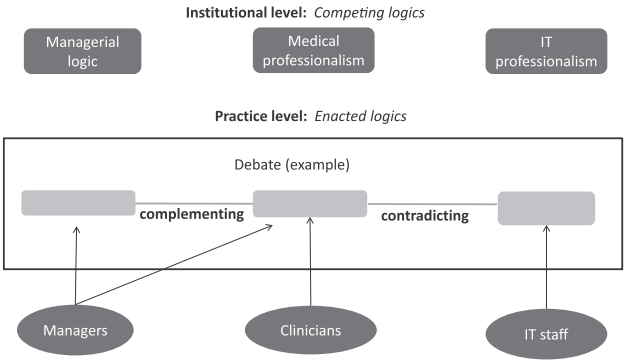

Figure 1. Competing logics at institutional and practice levels.

3.3. Data collection

In-depth semi-structured interviews were conducted with 21 key informants of the three stakeholder groups in the selected hospital. By selecting from different parts of the organization (see Appendix), we aimed at capturing different logics at play. The interview protocol covered IT projects and the interviewees' experiences with the IT projects. Moreover, the protocol included questions on IT strategy and vision, IT planning process, the involvement of business in IT planning, and communication among the IT function and the other groups. The interview was piloted on 4 informants leading to the clarifi of some questions and prompts for examples. Each interview lasted between 30 and 90 min. Transcriptions ranged from 5 to 9 pages per interview, making up a total of 135 pages. The interview information was complemented with observations of plenary personnel meetings, where the researchers took notes. These meetings were on topics such as the future vision of the hospital, execution of the future plans, and selection and implementation of an electronic health record system. Moreover, the authors attended a few meetings related to information systems implementations. Another source of information was the documentation, including the hospital's strategic IT plan, change management proposals of IT implementations, a description of the multilayered IT architecture, organizational charts of IT projects and an IT governance policy document. The observations and documents were used to (1) check our interpretations and (2) contextualize the findings based on the interviews.

3.4. Data analysis

We analyzed the transcribed data in four phases using Atlas.ti software, which enables both inductive and deductive content analyses (Miles & Huberman, 2014). The *first* phase was deductive content analysis. Two of us performed this deductive coding independently and then discussed the emerging content analysis scheme. Two of us went through all 21 interviews and identified quotes within the text that exemplified any of the three chosen IT governance dilemmas. 414 quotes that we identified became the corpus for the consecutive rounds of analysis. In the *second* phase, these quotes were analyzed both on the dilemma and the logic enacted as previously identified in Table 1. First, a subset of this corpus (a total of 128 quotes) was analyzed by two independent coders in order to establish inter-coder agreement. The schema was improved through addition of memos, examples and rules based on subsequent discussion between the independent coders. The inter-coder agreement was established at 77% for the dilemmas and at 68% for the logics. Agreement is generally considered to be acceptable in the range of 66–79% (Neuendorf, 2002). In the *third* phase, we determined per interviewee the logics they enacted. Then, we analyzed per dilemma how the enacted logics interconnected. We made combined comparisons across stakeholder groups and across logics per dilemma, and discussed these among the three authors. In the *last* phase, we compared these enactment patterns against the voiced and documented problems with IT governance and performance.

4. Results

This section first describes the organizational context within which the logics are enacted. The second subsection answers the first sub-question, about the extent to which the dominant stakeholder groups enact different logics, by showing how the stakeholders in their accounts of hospital IT governance enact elements of the three distinct institutional logics. The third subsection discusses how these logics become interconnected through their enactment in debates on prevalent IT governance dilemmas: (1) centralization versus decentralization of control, (2) standardization versus customization and (3) stability versus change. The fourth subsection discusses how the interconnections that emerged between the three enacted logics affect hospital IT performance.

4.1. Organizational context

We conducted our case study in a teaching hospital with more than 8000 employees and an annual revenue exceeding 900 million euros. Next to patient care, the hospital is also tasked with education and research. Between the 1980s and 2010, a fragmented IT infrastructure with more than 900 IT applications had evolved. The applications varied from the decentralized support of individual clinicians to central systems offering hospitalwide functionalities. The IT architecture, with all the required data exchange between applications, had become unsustainable. In the years 2010 and 2011, the hospital developed a strategic IT vision (document) to guide the renewal of their IT systems, moving from a fragmented IT architecture to a single integrated organization-wide architecture for high quality of care and increased patient safety. The vision development was participatory in nature in response to a consulting company's finding that the organization was (too) 'bureaucratic and hierarchical.' Top management, divisional managers, IT professionals, as well as clinicians from various departments were involved both in vision development and in IT infrastructure requirements identification. During this process, debates on whether to prioritize central and hospital-wide information needs above local and specific needs surfaced on a regular basis. Another recurring dilemma was whether the current processes had to be translated into system requirements, reflecting a desire for stability, or whether to use the opportunity to redesign hospital processes. The project managers took the stance that the IT changes

would greatly impact daily work routines of clinicians, nurses, IT staff and administrators. From time to time, actors were invited to raise their concerns and thus a rich debate ensued, enabling us to observe which logics were enacted and how these were interconnected. At the time that the interviews were conducted, the implementation of this new vision had started, sparking sense-making processes that highlighted the hospital IT governance dilemmas under investigation.

4.2. Enactment of competing logics by stakeholders

Only one interviewee [manager 9] exclusively expressed beliefs that fitted with the own profession. Indeed, Table 2 demonstrates that institutional logics are not exclusively enacted by the actors of the respective professions. Thus, actors may reinforce the institutional logics of each other's profession. Below our observations are discussed.

Managerial logic 64% of the hospital managers' accounts on IT governance reflected a managerial logic. These views can be seen in quotes such as 'The board gave too much room to IT-experts. The board has to prioritize IT and use it for competitive advantage' [manager 3].

Another manager was concerned about the vulnerability of IT; 'The computers started to malfunction and the whole system was down. Then, we become aware of how dependent the hospital is on IT' [manager 10]. The same manager said 'We are currently rolling out this system over the whole outpatient clinic. That brings enormous efficiency gains, which is nice, and which helps us reduce expenses' [manager 10].

Table 2. Variety of logics exhibited by each interviewee.

	Interviewee	Managerial logic	Medical professionalism	IT professionalism
Managers	2	58%	34%	8%
	3	64%	29%	7%
	5	25%	75%	-
	7	82%	9%	9%
	9	100%	-	-
	10	60%	20%	20%
	12	62%	38%	-
	13	53%	47%	-
All interviewed managers		64%	31%	5%
Clinicians	17	7,5%	85%	7,5%
	18	10%	85%	5%
	19	67%	28%	5%
	20	24%	67%	6%
	21	38%	51%	11%
All interviewed clinicians		*29.5%*	*63.5%*	*7%*
IT staff	1	44%	50%	6%
	4	46%	-	54%
	6	27%	-	73%
	8	56%	-	44%
	11	27%	3%	73%
	14	32%	-	68%
	15	5%	-	95%
	16	12,5%	12,5%	75%
All interviewed IT staff		*29%*	*2%*	69%

Seven out of eight managers combine managerial logic with medical professionalism, and four of them also exhibit IT professionalism. The manifestation of medical professionalism by most managers can be explained by the fact that hospital managers promoted to management from a clinical position. Hospital managers may continue to have clinical roles, and they may work with clinicians on a daily basis, which further explains the enactment of a combined managerial (64%) and medical professionalism (31%) in their approach to IT governance dilemmas. Interestingly, all of the interviewees' accounts to some degree reflected a managerial logic. In fact, managerial logic was the only logic among the three that all interviewees espoused. For example, an anesthesiologist said '*It is essential that we achieve our cost savings and that we get our IT priorities right*' [clinician 19].

Medical professionalism 60% of the clinicians' quotes reflected medical views on IT governance. This is exemplified by a doctor, who insisted: 'If you want to heal the patients, you have to make sure that the person who is treating them has the most optimal IT. So, the IT unit should ensure that doctors have the IT support to do this even better' [clinician 17]. The same doctor, a cardiologist said: 'We developed digitalized anamnesis form, which generates an automatic letter and input for a database.' Another clinician, an anesthesiologist, said: 'It would be ideal if we have our own IT expert who can help to solve IT issues. We are missing the flexibility to change and to experiment with IT' [clinician18].

All interviewed clinicians combined medical professionalism with a managerial perspective. In 34% of their IT governance-related comments, clinicians adopted a managerial perspective. This highlights that while they tend to enact a medical perspective on hospital IT governance, such as tailoring IT to support doctor–patient interaction, they also reinforce the managerial logic that stresses costefficiency, standardization and accountability. Especially clinicians with management responsibilities acknowledge the wider implications of IT use, such as those for the technical quality of care. Likewise, clinicians participating in IT implementations got acquainted with IT professionalism. A medical specialist reflected: 'You might say I am not just any IT user. For someone on the work floor, I have reasonably close ties with IT' [clinician 19].

On their part, managers also often enacted medical professionalism. Medical department managers tended to merge a medical and managerial logic more than those in general management roles. For example, the manager of the oncology center said: 'Our starting point is patient care, that is our main concern' [manager 3], and also took on an IT governance stance using medical professionalism: 'The multidisciplinary care for the patient, requires a facilitating IT. Such care is not department oriented but patient oriented.'

Contrary to managers, only few members of the IT staff exhibited evidence for medical professionalism, and especially those who work closely with practicing clinicians. For example, an IT professional who advises a medical unit said: 'The IT unit should advise and deliver what the customer expects. IT should listen what the customer wants. At the moment IT decides what is good for the customer.' [IT-staff 11]. Within medical professionalism, the following IT governance-related core values and beliefs previously identified in Table 1 were espoused: the patient-centered IT support, clinical diversity and professional autonomy.

IT professionalism IT staff adhered most strongly to their own logic. Especially staff members from the central IT unit were concerned about IT's technical quality, system design issues and maintainability. An employee from corporate IT stated 'New applications require new hardware. However, we identify many old PC's, which cannot handle new software. We recommend replacing those computers' [ITstaff 15]. Another IT-expert argued 'When we introduce a new system, things have to change' [IT-staff 11], indicating his/her awareness of continuous and rapid technology change. At times, the strong belief in technology push surfaced. A director from corporate IT claimed: 'History shows that technology determines the changes, not the business' [IT-staff 4]. IT staff at local departments [IT-staff 1, 11, 16] demonstrated a stronger understanding of medical and managerial logics. One department manager stressed how their local IT professional had had a, 'very crucial bridging function over the past few years' [manager 10].

4.3. Patterns of enacted logics within IT governance dilemmas

The three aforementioned prevalent dilemmas (Weill & Ross, 2005; Xue et al., 2008) in IT governance surfaced in the debates on the hospital's strategic IT vision and the IT systems requirements. This subsection addresses the second sub-question by addressing how enacted logics become interconnected within the debates on the IT governance dilemmas.

IT governance dilemma 1: centralized versus decentralized control Tables 3, 4 and 5 depict examples of how the logics within the 'centralization–decentralization' dilemma connect. The works council worries about the decision authority: 'who will ultimately decide about the arrangement (of our organization-wide system; the IT supplier, the leading coalition, or the departments'? Our analysis reveals that clinicians mostly favor decentralized

Table 3. Competing logics about the decision authority within the centralized versus decentralized control dilemma.

	Medical professionalism	IT professionalism	Managerial logic
Interaction	Contradicting	Partly complementing, partly contradicting	
Issue #1: decision authority (who should have the decision authority?)	'In the medical domain, there are many interests that have nothing to do with costs and benefits. If Professor X needs something related to IT, then he should get it so that he can do his job.' [clinician 20]	'IT [department] should assess if solutions match with the overall IT architecture.' [IT professional 16]	'The board of directors should be more dominant [in making IT decisions]. The IT department became too autonomous.' [manager 3]
		'IT Maintenance [group] should have a vision on the product they manage. The client can have a wish, but is that in line with the direction we want to go with that product?' [IT professional 8]	

Table 4. Competing logics about shared IT vision within the centralized versus decentralized control dilemma.

	Medical professionalism	IT professionalism	Managerial logic
Interaction	Contradicting	Complementing logics (yet mistrust exists between stakeholder groups)	
Issue #2: shared vision on IT (is there a shared IT vision?)	'Within each unit, the medical staff makes its own decisions regarding IT. We keep each other informed, but there is no single IT vision that we follow.' [manager 13]	'At the level of the board of directors, nobody is ITminded, nobody has IT vision.' [IT professional 6]	'So we stick to the overarching master plan. We don't like all those local IT applications.' [manager 2]
			'A real vision…I understand that we cannot realize this vision within two years, but it sure was very nice to observe that a direction was chosen. I assume this hospital already had this vision, but it wasn't properly written down until they came up with the vision statement.' [manager 7]
			'I don't think that the board has a coherent vision on IT.' [IT professional 1]

Table 5. Competing logics about local IT support within the centralized versus decentralized control dilemma.

	Medical professionalism	IT professionalism	Managerial logic
Interaction	Contradicting	Complementing	
Issue #3: local IT support (should IT be centralized, or should IT physically be distributed to local offices?)	'I was going to develop a digitalized form… but I was not supported at all.' [clinician 17] 'The central IT unit is too distant from us, also physically. You cannot walk by and receive support you need.' [clinician 18] 'IT should be much closer to the daily work of the hospital.' [clinician 18] 'It is so much nicer to have someone within your area that you can go to for help or to have something developed.' [manager 3]	'We should no longer allow any local room for IT, which is something of the past.' [IT professional 4]	'The number of local systems is too large to be able to financially manage.' [manager 2] 'The decision to replace hundreds of departmental systems with one Electronic Patient Record is crucial.' [manager 3]

IT decision making legitimated by the primacy of their professional expertise, which is located in the operating core. This preference is fueled by their professional accountability.

Medical professionalism is ignorant of the high IT costs, owing to the medical logic's inclination toward decentralization of IT governance to support the clinicians' unique needs. According to medical professionalism, IT staff should be organized around physicians. This is seen as a requirement due to physicians' specific data exchange needs, which may differ across different types of clinicians, and their alleged ultimate accountability for patients' healthcare.

On the contrary, the managerial logic clearly points toward centralized IT support and a top-down alignment of the admittedly diverse information needs within an overarching information strategy. This viewpoint is clearly the starting point of the hospital's IT governance plan. Managerial logic views a centralized approach as the most cost-effective as well as required for an integrated hospital management, which is needed for better overall performance resulting in higher patient satisfaction. Table 3 presents an example of three logics contradicting each other regarding with whom the decision authority about IT governance should rest. At first sight, this seems like a political battle where each professional group claims that the authority primarily belongs to them. Looking more closely, we find that IT professionalism and managerial logic overlap in both valuing an overarching vision whereby everyone abides.

Table 4 shows how mistrust between the stakeholders may render the dilemma political, as can be seen in the case of IT professionals 1 and 6, who do not trust management to actually adhere to the strategic IT vision. The medical professional norms of organizing around physicians fundamentally contradicts the managerial logic of centralized guidance of a coherent IT vision and strategy (per the IT vision document), which complements IT professionalism's values of transparency and maintainability.

In terms of the need for local versus centralized support for IT, both IT professionalism and managerial logic complement each other (Table 5). While IT professionalism supports centralized IT to fit architectural standards, the managerial logic advocates the standardization of applications and removal of the local support to reduce cost. In contrast, medical professionalism contradicts these two logics by suggesting that IT should be present locally to help clinicians and to develop the applications required by clinicians' work.

IT governance dilemma 2: IT standardization versus customization Tables 6 and 7 summarize interacting logics within the standardization versus customization dilemma. Table 6 illustrates how both the managerial logic and IT professionalism favor the efficiency and transparency of standardization across departments, which contradicts with the medical professionalism's emphasis on legitimate diversity in needs. The works council explicates the dilemma when they ask: 'Is a differentiated approach provided per department and discipline, and what does this mean for having a generic IT solution.' In a meeting on issues in organization-wide IT implementation, this is voiced as the most difficult dilemma: 'uniformity or the freedom that accords with professional autonomy.'

Table 7 illustrates how especially the IT employees with a close physical proximity to medical departments criticize too much standardization. Regarding this issue, the belief in objective needs specifications (previously listed in Table 1) inherent to IT professionalism partly complements the values of diversity and patient uniqueness within medical professionalism. This illustrates how IT professionalism can complement medical professionalism instead of the managerial logic.

IT governance dilemma 3: IT stability versus change Table 8 provides evidence for interconnections between the logics within the 'IT stability versus change' dilemma. This discussion pertains to the need at the top to create a stable IT organization, which fulfills the government requirements and reduces change in order to minimize

Table 6. Competing logics about legitimation within the IT standardization versus customization dilemma.

	Medical logic	IT professionalism	Managerial logic
Interaction	Contradicting	Complementing	
Issue #4: legitimation (is standardization across departments legitimate?)	'I find it truly strange that we have to organise our processes exactly like the other department, which happened to be the one…acting as a pilot.' [manager 13]	'Standardization facilitates transparency towards the user.' [IT professional 14]	'We are currently rolling out this model at the whole outpatient clinic. This brings enormous efficiency gains, which is nice considering the budget cuts imposed on us.' [manager 10] 'As an area you are too small to have your own systems, e.g., for staffing… That is just impossible. That is why we now choose very much for standardisation, also due to the budget cuts.' [manager 2]
	'All these various little databases being developed… they [the databases] emerge from a need that requires a response. [Yet] if you want to try something, the IT [staff] is far away.' [clinician 18]	'If you make sure [IT runs] smoothly…users will more easily come to accept that certain issues are organised differently than they would have preferred.' [manager 13] [Criticizing the lack of IT standardization] 'Together we created the Frankenstein.' [IT professional 6]	'In fact it is the management who really wants that change, but they then use IT to get it rolled out.' [IT professional 15]
	'What I sometimes miss is that they [the IT staff] really think from the client's perspective. Surely for the large part they think along [with the medical staff], but we should cooperate much more.' [IT professional 7]	'Many, especially the younger doctors, handle IT very easily; they develop and implement their own IT. This leads to many different ways of working and many applications that we need to maintain.' [manager 12]	

Table 7. Competing logics about specialization within the IT standardization versus customization dilemma.

	Medical professionalism	IT professionalism	Managerial logic
Interaction	Partly complementing	Contradicting	
Issue #5: specialization (How can the hospital avoid system and effort duplication, and still accommodate diverse needs of different departments?)	'Among our cluster of specialties, the processes such as registration differ tremendously… also legally the registration rules differ… which renders it difficult to develop things [IT applications] together.' [manager 13] 'People hope that their specific wishes [from IT] are fulfilled. That they get what others don't have, but that it is useful for them in their daily work.' [clinician 20]	'Sometimes deviations are necessary because the patient cannot be captured in a protocol. However, you should not let the 20% dominate the 80%.' [IT professional 11]	'You try to prevent that a similar project is started twice…' [IT professional 11]
	'There is no single need for IT. There is not a single IT solution that will address the needs of all departments. We have got 28 medical departments …teaching, research, patient care…it is like comparing apples and oranges.' [clinician 20]	'We follow the principle that we do not develop [our own IT] anymore. I do not believe in this principle …I would be surprised if a teaching hospital can do with a standard package.' [IT professional 6]	
		'While scrumming allows you to directly tune into what the client wants…its disadvantage is that different wishes can ultimately boil down to the same need.' [IT professional 8]	

and manage complexity. In this sense, IT professionalism's belief in control complements the managerial logic of management accountability and control. On the other hand, the medical professionalism prevalent among the interviewees pointed to IT-enabled medical advancement and innovation-mindedness, which should not be inhibited by managerial belief in control. This medical professionalism contradicts the emphasis of management and IT professionalisms on a predictable, stable IT environment (Table 8). The dilemma's salience in this organization also shows in the works council's questions on IT implementation: e.g., 'Will continuity of care be sufficiently guaranteed in the transition period, and which measures can be taken?' and 'Is there sufficient flexibility to adjust to new demands and needs that evolve over time?'.

Table 8. Competing logics about decentralized innovation versus centralized stable solutions within the IT stability versus change and innovation dilemma.

	Medical professionalism	Managerial logic	IT professionalism
Interaction	Contradicting	Complementing	
Issue #7: decentralized innovation versus centralized stable solutions (How can the hospital balance the need for innovation locally but still address the need for stability globally?)	'If I want to take a good initiative, I go to our local IT support… discuss whether it is something we can do. If so, you start working on it in a small project team.. they have their own network to find the IT people for it.' [manager 5]	'[Talking about the need for stability to address regulatory requirements:] *Next year* [when government auditors visit], you cannot get away with saying 'We did not get the job done, because we are reorganising our IT.' That is just not an acceptable answer.' [manager 10]	'There are too many IT-related components that can go wrong. You'll have to accept that it [IT] has become complex, and you need to ensure there is a layer in the organization, which at the global level monitors that complexity.' [IT professional 16]
	'Professor X wants it, and he gets what he want [immediately]' [IT professional 16]	'We said: "On September 1st the people will start visiting this new centre, therefore, it will just have to be ready." They were still adding all kinds of new things to it. I said: Now we stop developing, and let this be version 1.0, and you make sure it…works.' [manager 10]	'You have to force IT changes down their throats; you have no other option… And so, the image that people have of IT is negative: [they think] "IT wants something [from us] again"'. [IT professional 15]
	'Many ICT systems are new. We developed an IT system that suits our specific needs. It has advanced functionalities' [clinician 17]	'The project was put on hold due to its cost. Then someone promised that it would reduce FTEs [for the whole hospital]. They bought into the project and it got reinitiated.' [clinician 19]	

4.5. Patterns of enacted logics and hospital IT performance

The debate on the governance issues presented previously shows how two hybrid logics (namely managerialIT hybrid and medical-IT hybrid) emerge from the data (Figure 2). Both hybrids drive the hospital toward new IT initiatives, yet in opposing ways. As these hybrid logics are enacted in parallel, the resulting IT governance is unstable and IT performance suffers. Below we address the third sub-question 'how these interconnections between enacted logics affect the hospital's IT performance' by explicating the IT governance dynamics arising from the simultaneous enactment of these two hybrid logics. The dynamics show how the way that IT professionalism is enacted polarizes the differences between the medical and the managerial logic (Figure 2) as subsets of IT professionalism reinforce each of these

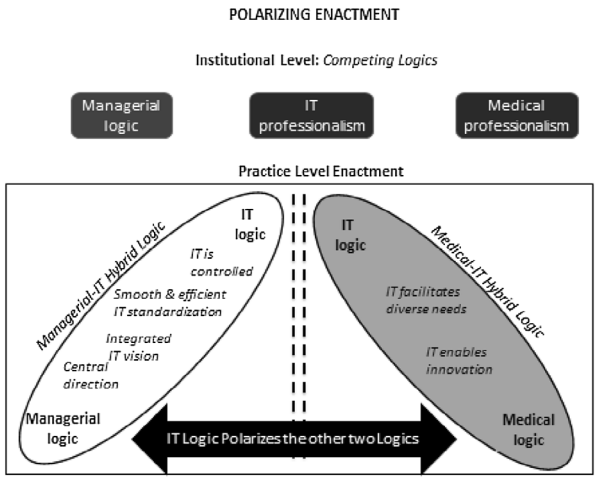

Figure 2. Polarizing enactment, where IT professionalism further polarizes medical and managerial logics.

opposing sets of values and beliefs. Within the hospital's IT governance debate, none of the hybrid logics becomes dominant. The prevalence of the hybrid logics differs per business unit as one local IT advisor explains: 'the business unit managers could not agree [on whether IT or the business should be in the lead], so neither could we as IT advisors.' [IT-staff 11]

Managerial-IT hybrid logic A hybrid logic is enacted that combines elements of the managerial logic and of IT professionalism, i.e., the latter's focus on standardization, reliability, precision and transparency converges with the managerial logic of efficiency and control. This hybrid offers, for example, the legitimation for the implementation of a hospital-wide electronic patient record that will enable integrated patient care across occupations and departments as announced in the strategic plan.

In one business unit, we see this first hybrid at work as IT staff focuses their support on central initiatives rather than supporting the business units. One IT advisor offers the following legitimation: 'Our business unit's approach was that we have to assist the central initiatives much more … see that as our core business. Of course this also involves listening to our clients… but particularly while executing the central projects. We are listening to our client much better and doing so much more through prototyping and thus arriving at a sound set of user specifications. Other business units fill in "listening" entirely differently.' The IT advisor explains how it is seen as legitimate because the business unit traditionally fosters a directive if not coercive management style… 'and [doing] no customization at all.' [IT-staff 11]

Medical-IT hybrid logic However, simultaneously, in another business unit, we saw the enactment of the opposing (namely, medical-IT) hybrid, which combines

a firm belief in innovative and flexible IT with values of medical entrepreneurship and professional autonomy: 'Every physician is actually an entrepreneur' [manager 12]. This hybrid legitimizes local IT initiatives: 'There are many physicians, especially the young ones, who are very comfortable in using IT and [they] very easily come up with ideas [about IT systems], take these on, draw them up, and then order IT to implement [these ideas]' [manager 12]. Clinicians and local managers reported how they initiated local implementations of IT to support their department's or a patient stream's specific needs: '…there are still a whole lot of opportunities for departments to independently start projects without us knowing it. Half a year later you then suddenly hear…' [ITstaff 11]. They hired external IT experts from their departmental budgets or bypassed the hierarchy in convincing the board how their innovative idea would be beneficial to all: 'Department X will surely get it [the IT solution], but it was originally meant to be implemented throughout the hospital. I guess that through a wrong estimation this ultimately did not succeed' [manager 12].

Dynamics resulting from the simultaneous enactment of the two hybrids The aforementioned simultaneous enactment of two hybrid logics resulted in inconsistent IT governance practices. Overestimation of local initiatives' organization-wide usefulness slowed down hospital-wide solutions to the extent that these initiatives usurped scarce resources, causing other initiatives to wait for resource availability. These individuals ended up solving their own problems with internally funded and/or developed systems, which lead to higher IT diversity that then creates future problems in systems integration and standardization. An IT professional explained how difficult initiating a central project was: '…to get it, the project and thus the resources, … is very tiresome' [IT-staff 1]. An aggravating problem, we argue below, is that the outcome of each of the practices informed by two hybrid logics seems to fuel the further polarization of managerial and medical logics (Polarizing enactment, Figure 2).

A business unit manager recalled how 'only one form needed some adaptation and then we could go digital… In a project team, I met an IT staff member and asked him how much time it would take…to get it right. He told me… half-a-day. The prioritization at IT central is that you have to wait for 1,5 year [for a job that takes half a day]' [manager 5]. Such experiences pave the way for business units to initiate their own decentralized projects: 'These projects are picked up directly and realized within our team' [IT-staff 1]. The polarizing loop (of large-scale centralized initiatives usurping resources, causing business units to implement their own decentralized IT projects) in turn further stagnated organization-wide IT as the following example shows: 'The project…there was a kind of doit-yourself IT;… that happened an awful lot and what you then noticed is that business units built applications with their own underlying databases, whose structures do not match central IT structures… [while all] physicians are required to be able to retrieve these data [which is not possible]' [IT-staff 6]. Due to the thus increasing costs of managing disparate data centrally, hospital management took cost-cutting measures: interviewees told us that the financing of all decentral IT projects, including those well underway, had been frozen. Nevertheless, the belief prevailed that the hospital inevitably would remain 'a culture of islands,' as interviewee 12 put it: 'You have to realize that it [the culture of islands] is just there and that this will not change.' A critical consequence of the continuing enactment of the Medical-IT hybrid was that decentral adoption of central IT innovations was never guaranteed. This was evident from statements such as the following: 'The plan was to phase our own application out, but we are still hesitating, because [what] if it [the central application] does not do the job' [IT-staff 1].

The decentralized IT initiatives that were legitimized by the medical-IT hybrid logic slowed down the accomplishment of the strategic vision of a standardized and integrated hospital-wide IT environment. Moreover, when the integral IT initiatives did not provide timely support due to lack of resources, this further reinforced the logic of decentral IT-supported medical entrepreneurship, i.e., the clinicians and managers, who were frustrated by the lack of adequate organization-wide IT systems decided to continue taking their own initiatives and in doing so usurped resources. An IT professional recalled that a department asked him help develop an application that a national project had tried to implement in vain over a 5-year period: 'they saw it as a nice little project…[however] each patient of this small department can come from everywhere, so you would still need to cover the whole [nation]' [IT-staff 16].

The account above shows how the parallel enactment of the two hybrid logics effectively blocked progress in IT performance, and more specifically the vision

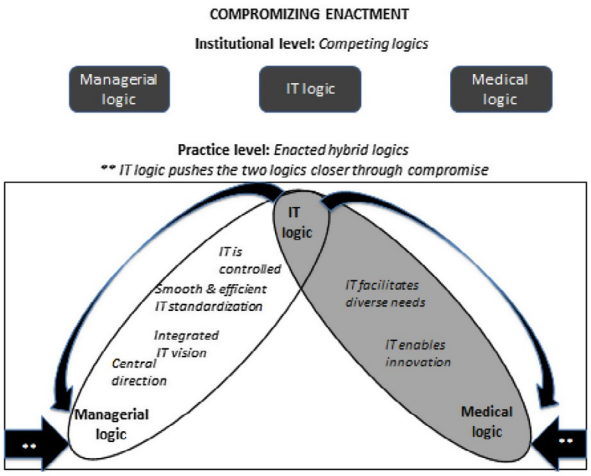

Figure 3. Compromizing enactment.

accomplishment that was identified in the strategic IT document (see 'Organizational context' section).

Are other dynamics than polarization conceivable when the institutional setting is characterized by a triad of competing logics? In the case studied, compromises were sometimes reached that allowed IT development to continue (Figure 3). A technical staff member told 'I now work on… streamlining data streams… we use a different approach in this project than before…scrumming… The nice thing is that through these short sprints you continuously check what the client wants' [IT-staff 8]. He regretted that the organization's budgeting and authority assignment were not (yet) aligned with this IT development approach. We labeled these practices 'compromizing enactments,' because these enactments did not solve the underlying contradiction between the two hybrid logics, but still allowed progress in IT implementations.

Data suggest this compromising enactment to be a conscious effort. In a meeting of the 'Improved care with new IT'-program, the program's manager points to the organization's allergy for centralized choices and wonders whether the decision maker's occupational background can make a difference. In reaction, a project manager stresses that patient-centeredness and facilitating care pathways should offer them legitimation in the eyes of clinicians. Another adds: 'Working jointly within one patient record will blur the traditional role divisions between occupational groups.' This awareness of the pluralist setting and the challenges involved for legitimating IT decisions was also present in subsequent newsletters, but did not change the overall enactment of the managerial-IT hybrid logic (standardization through top-down strategy with a big-bang transition).

In contrast, one clinician convincingly posited that IT could help bridge the contradictions between the medical and the managerial logics, but sighed and added 'IT absolutely does not do the job. Around here, IT is a real spreadsheet generator and it does not support the other [clinical] world at all… we get quite a number of people [clinicians] from outside… without a single exception they tell us that they have never encountered anything as bad' [clinician 21].

An IT professional gave an example of a breakthrough he envisioned which allowed for the resolution of the dilemmas regarding standardization versus centralization and decentralization versus customization: 'The users crave the discretion to have a few additional applications of their own…In the end the hardware has to also be suited for this. A need is emerging for us to decide: "Bring your own device"… we can ensure the required hospital applications will operate on it… we will need to adapt the infrastructure accordingly… all applications will be offered from a central concept and they will all operate from the central computer hall.… thus we will achieve, I expect, a much higher user friendliness and also an experience that ICT can be really flexible.' [IT-staff 14].

We label this kind of enactment 'Synthesizing Enactment' in which IT professionalism offers a bridge between the other two thus far contradicting logics instead of further polarizing them (B4). While synthesizing enactment was thus hoped for by these two interviewees [clinician 21; IT professional 14], we did not observe it yet in our case study.

In this section, we discussed how actions of the internal stakeholders that they legitimized by polarizing enactment within a triad of competing logics resulted in suboptimal outcomes. Four years after our first interviews, an integrated hospital IT environment was still not realized and a new project with this aim has just started as of the writing of this article as evidenced by the hospital's internal newsletter. Understanding the enactment patterns in a triad of competing logics that guide the IT governance shed light on underlying causes.

5. Discussion and conclusion

This paper contributes to understanding cultural and political infl nces on IT governance by explicating the manifestation of competing institutional logics that contribute to IT governance practices, by highlighting the central role of IT professionalism and by refl ing on consequences for IT performance. Our focus on the microlevel manifestation of institutional logics in IT governance dilemmas challenges the predominantly prescriptive and unitarist IT governance literature (Debreceny, 2013; Xue et al., 2008). Disregarding plurality in institutional infl nces potentially leads to overly simple views on IT governance that do not hold in practice (Magnusson, 2010; Willson & Pollard, 2009). One of the few studies with an institutional perspective on IT governance showed that IT implementation success is directly infl enced by the congruence of IT arrangements with existing institutions (Mignerat & Rivard, 2009). Our study adds by showing why congruence can be hard to realize in a setting with a triad of competing logics, and how this may hinder successful IT governance.

In hospital settings, two institutional logics have been identified in the literature: (1) managerial logic (Doolin & Lawrence, 1997; Enteman, 1993; Kitchener, 2002) and (2) medical professionalism (Ferlie, Fitzgerald, Wood, & Hawkings, 2005; Korica & Molloy, 2010; Reay & Hinings, 2009). In IT governance decisions, both managers and clinicians have to rely on IT professionals, making it paramount to also understand the logic that governs the IT profession and how it interacts with the managerial logic and medical professionalism. While beliefs and values of IT professionals have been discussed before (e.g., Guzman & Stanton, 2009; Heeks, 2006; Kraemer et al., 1989; Mok, 2010; Weill & Ross, 2005), they had never been explicitly articulated as part of an institutional logic

(Thornton & Ocasio, 2008). Our findings demonstrate how IT professionalism could be clearly recognized as a separate logic in the hospital studied. The current study of a setting where changing combinations of three competing institutional logics are enacted by the dominant stakeholders to legitimate IT governance choices led to the following conclusions and contributions to the IT governance literature.

5.1. Theoretical implications

In answering our first sub-question, namely 'To what extent do the key stakeholder groups enact different logics,' we found that the three logics are loosely coupled to the individuals' original professional background. Institutional theory assumes that actors closely adhere to the primary logic of their own profession (Abbott, 1988; Mcpherson & Saunder, 2013). We specifically expected to fi this in the IT fi where the IT professionals have a very unique language that managers and other professionals find intimidating (Guzman & Stanton, 2009). However, those who switched between professional roles, which is common in hospitals (Kitchener, 2002; Llewellyn, 2001; Numerato, Salvatore, & Fattore, 2012), started using the logic of their new professional role in addition to the logic of their original occupation. Likewise, actors from different fi who worked closely together partially adopted each other's occupational logic. Nevertheless, unlike Olakivi and Miira (2016), we fi that competition continues in the enactments. Indications that adoption of other logics occurred more frequently in decentral than in central positions seem in line with Numerato et al. (2012), whose review suggests that professionals co-opt the managerial logic when they recognize its utility, but do so within their jurisdictions.

In answering our second sub-question 'how do these logics become interconnected, either in complementary or in contradicting ways, in decision makers' debates on IT governance dilemmas?', we identifi d how congruence between the three enacted logics depended on the IT governance dilemma at hand. Earlier institutional logics research found that the rivalry between the competing logics leads through their enactment by stakeholders to a change in dominant logic (Reay & Hinings, 2009) or to an emergent hybrid logic in which two competing logics merge (Thornton & Ocasio, 2008) or to continuing unresolved IT governance debates among stakeholders using different logics (cf. Reay & Hinings, 2009). In those previous studies, two logics competed. However, when IT governance is influenced by a triad of competing logics (A, B, and C), theoretically not one but four kinds of possible hybrids can result (AB, BC, AC and ABC). In our case, two hybrid logics were enacted: a managerial-IT hybrid and a medical-IT hybrid logic. Our findings show that in case of a triad of logics, switching rivalry among hybrid logics may develop. In the hospital setting, this was a consequence of the IT governance dilemma-dependent connections between the competing logics. For most of the debated dilemmas, medical professionalism contradicted both the IT and the managerial logic, but in two instances the managerial logic contradicted IT professionalism. First of all, these accounts lead to the conclusion that the logics as such are not necessarily contradicting or complementary, but rather the logicsin-use. Second, it can be concluded that dilemmadependent congruence between competing logics result in switching coalitions within a triad of logics that endanger stable IT governance policies and practices.

In answering our third sub-question 'how do these interconnections between enacted logics affect hospital IT performance,' we found that in this case the consequences for IT performance were largely negative. Our explanation below highlights the pivotal role of IT professionalism in this interplay. When a third dominant logic contradicts two complementary logics, this may leave the dilemma unresolved. Furthermore, as none of the three logics were consistently complementary or conflicting with one another across different dilemmas, the resulting IT governance was experienced as unstable. Yet the problem was not solely one of unstable practices and policies that only partly resolved IT governance dilemmas. We were especially surprised that the IT professionalism seemed to reinforce rather than bridge the contradictions between the managerial logic and medical professionalism leading to polarization within the IT governance practices. This seems to accord with Magnusson's (2010) suggestion that IT professionals and the COBIT framework they work with may increase ambiguity.

This raises the question of whether more balanced decisions on IT governance dilemmas are possible when a triad of competing logics feeds the legitimation of IT governance. Our findings point to three patterns that may result from switching coalitions within a triad of logics, of which the first was most prominent in our case. The first pattern we call 'polarizing enactment' (Figure 2). Here, polarization between unstable hybrid logics stopped progress in the IT governance practice. Remarkably, it is enactment of IT professionalism that pushes the other logics further apart. The managerial logic of controlling the hospital IT developments to reduce the costs contradicts clinical professionalism and entrepreneurial managerial logic. Dependent on the dilemma at hand, the IT professionalism reinforced the legitimation of either the one or the other, giving rise to countervailing practices. Consequently, the respective practices arising from them block one another's progress. In this case study, interviewees not only mentioned IT projects which got stopped halfway, but the polarizing enactment also hinders the strategic IT integration that the hospital strived for. IT professionalism 'serves two masters,' and in this particular setting their strengths are experienced to be equal. Second, a

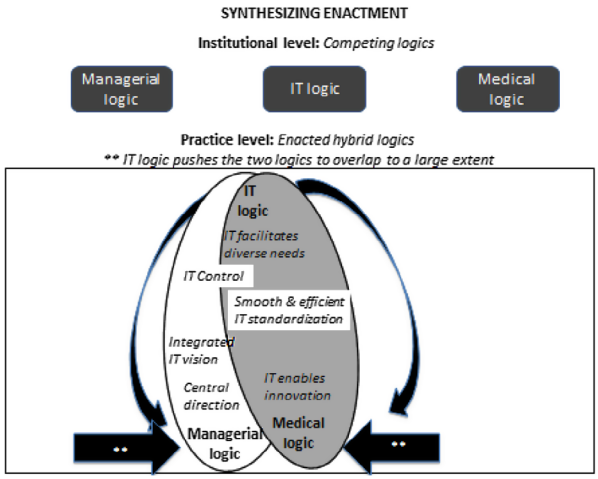

Figure 4. Synthesizing enactment.

few instances of an 'compromizing enactment' pattern emerged (Figure 3). Here, IT professionalism is enacted toward more convergent decisions in IT governance by offering the legitimation for compromises between the medical and the managerial logic. What we did not come across was a 'synthesizing enactment' pattern (Figure 4) leading to innovative progress in IT governance policy and practice. Some interviewees expected that IT professionalism logic has a potential role in synthesizing the values, beliefs, rules of the other two logics prevailing in the clinical management field. Research on institutional logics finds that individuals present agency in the use of logics (Whittington, 1992). Specifically, individuals pragmatically invoke available logics to manage everyday work (Mcpherson & Saunder, 2013). The potential of IT professionalism to accommodate synthesizing enactment could be studied through action design research (Sein, Henfridsson, Purao, Rossi, & Lindgren, 2011), which would allow researchers to guide toward synthesis among the logics-in-use in the IT governance debate. To conclude, IT professionalism offers room for agency (cf. Magnusson, 2010) and we propose that this is pivotal in determining the enactment pattern of competing logics in hospital IT governance: polarizing, compromising or synthesizing.

5.2. Practical implications

This study suggests that those responsible for IT governance are not designers of 'one best solution,' but listeners, negotiators and innovators who work with other key stakeholders to tailor IT governance arrangements in congruence with the enacted logics. Their actions have to be grounded on a thorough understanding of the competing logics in IT governance and sensitivity to how these are being enacted in their organizations. In this respect, the evidence for relatively loose coupling between logics and stakeholder groups opens up opportunities for shared sense-making and ultimately field-level logic reconstruction, and possibly productive synthesis. Close collaboration, joint projects, project managers from different institutional backgrounds and physical proximity between actors representing different logics may facilitate synthesizing contradictions between enacted logics. A managing clinician in this hospital advocates to organize 'leading coalitions' for addressing complex IT governance issues: leaders from different institutional backgrounds who are strongly committed to address the problem while acknowledging their differences. A final practical implication concerns transparent communication about IT governance as prescribed by COBIT. Here, enlistment of the different logics may demonstrate that various legitimate perspectives are being taken into account.

5.3. Limitations and future research

Since we conducted a study at one hospital within a decentralized healthcare system, we acknowledge that other hospitals, especially those working in more centralized healthcare systems, may face other constellations of key stakeholders (Petrakaki & Klecun, 2015). Another limitation is our primary focus on the stakeholders that affect IT governance decisions within the organization rather than on those that are affected, such as patients. This study's findings may partly be applicable to other professional services (Von Nordenflycht, 2010), i.e., settings of independently operating organizations characterized by knowledge intensity, a professionalized workforce and intensive IT usage. In such settings, the competition between the managerial logic and IT professionalism is complicated by a powerful embedded profession, in our setting medicine, that brings its own logic into the debate. In large consulting, advertisement, accounting and law firms, professionals' expert power and accountability also counterbalances managerial authority. Meanwhile, IT dependency still tends to increase, further legitimizing the enactment of IT professionalism. In such settings with countervailing rather than simply competing logics, we expect IT governance to be influenced by a potentially flexible enactment of beliefs, norms and values derived from a triad of competing logics. In our case, the enactment pattern resulted in polarization. Still, the dynamics within the triad may vary if the study is replicated in different professional service organizations. It follows that we cannot tell whether IT governance will be as cumbersome as in the case studied. Yet, the way IT professionalism is enacted seems crucial in the development of polarization or compromise or synthesis, which matters to IT performance. Future research may, therefore, study conditions under which the enactment of countervailing logics fosters successful IT governance in professional service organizations. Longitudinal research may analyze these dynamics in-depth.

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Disclosure statement

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Appendix

See Figure 5.

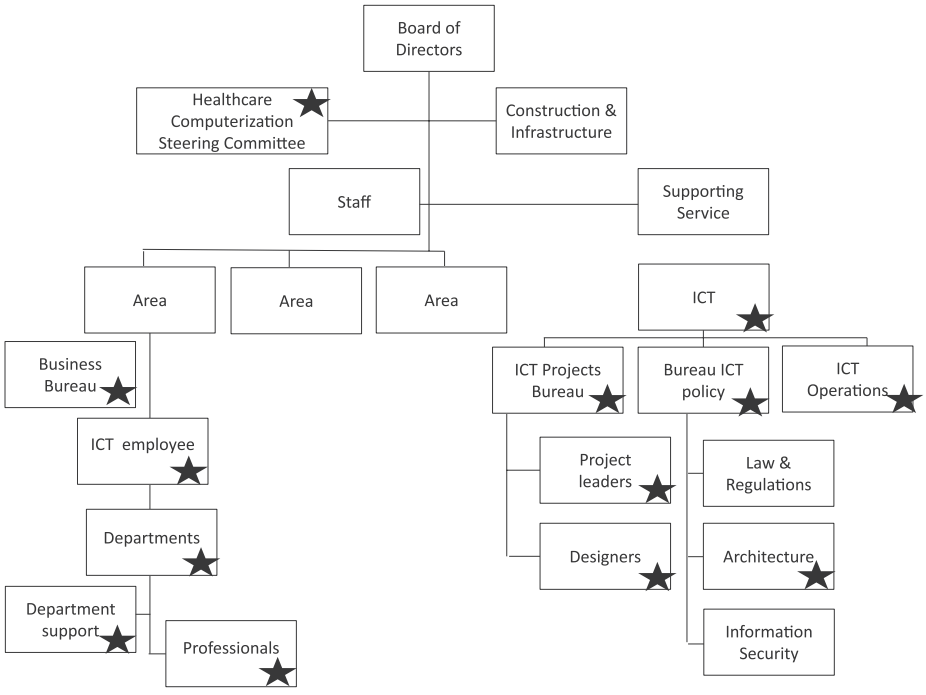

Figure 5. Interviewee identification. (Interviewees' departmental positions are indicated with stars. In some cases multiple interviewees were at the same position).